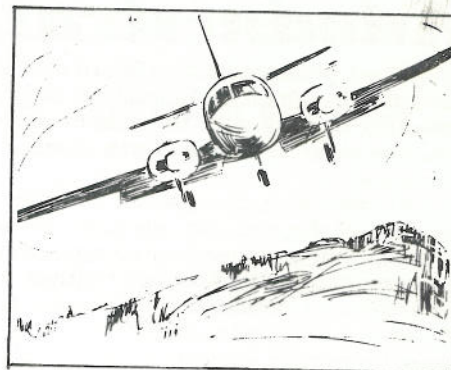


Montana and the Sky



Vol. 31, No. 8

MONTANA AERONAUTICS DIVISION

August, 1979

Density Altitude Charts

We hear about density altitude every year and unfortunately each year we read or hear about accidents involving Montana aircraft which are affected by it.

As a practical means of helping to understand this problem, we are providing upon request and at no charge, operation altitude charts to any Montana airport fixed base operator or flying organization. These 12x16 inch charts are made of heavy cardboard with adjustable numbers to indicate the field elevation and temperature in fahrenheit.

If you are interested in one of these charts please indicate the field elevation for your airport in your correspondence to us. This information will be incorporated right on the chart, making the density altitude computation much easier.

For example, if you were at the Yellowstone Airport, elevation 6644' and in the middle of the afternoon with the temperature at 100 degrees fahrenheit, your aircraft would actually think it was over two miles high. You may find that under this type of condition, it might be impossible to load your aircraft within the legal maximum gross weight. It might not be able to take off regardless of the runway length. Of course, it is not necessary to be at a field this high to run into operational problems. We have enough of these charts to handle most communities in Montana, so please let us know your needs.

Density Altitude Clinic

The Montana Aeronautics Division and the Insurance Associates of Choteau are sponsoring a free Density Altitude Fly-In Clinic at Choteau on August 25, 1979. The program will start at 11:00 a.m. and will cover classroom discussions on density altitude, its effect on aircraft performance, and computations for your aircraft to clear a 50 foot obstacle on takeoff.

A theodolite (an instrument used to measure takeoff distance to an altitude of 50 feet) will be used to measure the actual distance you require to reach 50 feet of altitude.

For more information contact Jack W. Van De Reit, Insurance Associates, Choteau, MT (406) 466-5749.

Skylab Reentry

Skylab's Indian Ocean reentry disrupted some air travel. An elaborate warning system was set up by the FAA to direct aircraft out of any danger. Skylab's computed final orbit sectioned off into 25 blocks of airspace, each 1,690 kilometers long and over 190 kilometers wide. There was a worldwide warning issued 12 then 6 hours before the expected reentry, as to which of the 25 blocks should be vacated. Both the U.S. and Canadian airspace blocks considered dangerous were cleared of aircraft. The Italian Transport Ministry reported to have ground all flights for a six-hour period preceding Skylab's fall. Other European Countries also initiated precautionary measures.

(Exxon Aviation News Digest)



Sam Langhus (left foreground) and Chet Sammons among the many people helping pick rock from the Schafer Meadows runway.

Administrator's Column

The Civil Aeronautics Board sent staff officials John Smith, Mark Atwood, and Bill Bingham to Helena on July 26 and 27 to conduct a work session meeting dealing with the essential air service issue for the seven Montana communities and one North Dakota community being exited by Frontier Airlines.

Governor Judge opened the meeting with pertinent comments on the desires of the state for adequate air service to the affected communities. He stated, "Our proposed air service system is less expensive than the present system provided by Frontier Airlines. It is more efficient, and it offers a rational approach to developing a linear route system. The Essential Air Service Petition submitted on behalf of the eight communities challenges the Board to seek innovative answers based on several indisputable facts." He went on to point out that potential air passengers would rather drive than fly only to connect with an empty airport, that the communities also need to be connected beyond their immediate region, and that this route system, which would improve air service to all the involved communities, would not break the bank of the American taxpayers.

Each community was given an opportunity to present their recommendations and opinions regarding their joint petition to the CAB. Montana Aeronautics Board Chairman Richard O'Brien and the North Dakota Aeronautics Commission Director Harold Vavra also participated in supplying pertinent information.

* * * * *

The Schafer Meadows work session fly-in was a tremendous success. About 45 people flew in and participated. Although the airport and campgrounds were generally in good shape, we did pick rocks from the runway and filled many gopher holes. The time prior to and after the work session was spent relaxing, fishing, horseback riding, and visiting with good friends. The temperatures held at 85°F and proved to be perfect for swimming, but only the hardiest ventured into the ice cold mountain river. The runway is in excellent condition and should be set for the rest of the summer and fall.

* * * * *

The Montana Aeronautics Board held their regular bi-monthly meeting at West Yellowstone. Jim Monger of TAP, Inc. presented their preliminary findings of the feasibility of keeping Yellowstone Airport open on a year-round basis. Although the study is not complete Mr. Monger was asked to give the board and the West Yellowstone officials an update. Ted Mathis, Yellowstone Airport Manager, conducted a tour of the facilities and briefed the board on projects being undertaken. The tour included the new aviation campgrounds which Ted and his crew recently completed. The campground is complete with running water, tables, fireplaces and a toilet facility. The board commended Ted on the excellent conditions of the entire airport.

* * * * *

I attended the 2nd Annual Beacon Star Antique Airfield Fly-In and Air Show on August 4 and 5. The fly-in and air show was a great success with even more airplanes than last year. A total of about 100 airplanes flew in and most of the people slept in tents or under the wings. Airplanes from as far away as California, Texas, Washington, South Dakota, Missouri, Colorado, Oregon, Iowa and Idaho flew in.

The Moore Women's Club provided food service and refreshments. The Bozeman Skydiving Team entertained the spectators with many thrilling aerial skydiving feats. Three outstanding aerobatic airshow performances were featured by Al Newby of Belgrade, Ron Litton of Billings and Fred Ludke of Freedland, WA.

After enjoying a delicious steak fry and a refreshing swim on Saturday evening, the Hertz Combo of Lewistown and "Spinach" Innis of Los Angeles entertained the crowd with Dixieland music for dancing and listening pleasure.

Due to time constraints there will not be any photographs of the fly-in until our September issue.

* * * * *

I would like to congratulate Dean Sparkman on his recent appointment to



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DEPARTMENT OF
COMMUNITY AFFAIRS

Thomas L. Judge, Governor
Harold A. Fryslie, Director
Martin T. Mangan, Deputy Director

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Phone 449-2506

Box 5178

Helena, Montana 59601

Michael D. Ferguson
Administrator

Board of Aeronautics

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THURBER'S  HELENA

Administrator's Column Cont.

the Civil Aeronautics Board. Dean was recently selected by the CAB to fill the Mid-West Director position with the Office of Community and Congressional Relations and will be based in Kansas City. This region covers North Dakota, South Dakota, Nebraska, Missouri, Minnesota, Wisconsin, Kansas, Iowa and Illinois.

Dean was the founder and the first president of Big Sky Airlines, a Montana based commuter airline which now provides service to the Montana communities of Helena, Billings, Butte, Great Falls, Missoula, along with the communities of Boise, Idaho, and Casper, Wyoming.

On behalf of the Aeronautics Division and Board I would like to extend our best wishes to Dean. We look forward to working with him in the future.

* * * * *

Due to several reported incidents and fatal accidents being either directly or indirectly related to density altitude I wish to conclude by urging you all to take a few minutes and study both your aircraft and density altitude charts. I also want to invite you to attend the density altitude clinic we are co-hosting with Jack Van De Reit, Insurance Associates at Choteau on August 25. Refer to the article found elsewhere in this newsletter.

We are very fortunate to have Jack as the primary instructor for this clinic and I know you will all agree that we would have to look long and hard to find someone with Jack's qualifications and experience. I hope you will all be able to attend.

MPA Annual Fall Fly-In

The Lewistown Montana Pilots Association Hangar will be sponsoring MPA's annual fall fly-in this year at the Beacon Star Antique Air Field 3 miles east of Moore, MT on Sept. 15 & 16.

A pit-burning will begin between 2 p.m. and 5 p.m. and will continue to be built until approximately 1 a.m. Sunday morning. At that time (for those of you who are still awake) the meat will be put on the fire and continue to cook until dinner time Sunday afternoon around 1 p.m.

The MPA is providing the meat and refreshment at a cost of \$2.50 per person. Saturday you are on your own for meals. Sunday dinner will be potluck and participants are encouraged to bring beans, any kind of salad, potato chips, etc.

Saturday evening the Montana Pilots Association State Board of Directors will be meeting at the Yogo Inn in Lewistown for a dinner meeting around 6 p.m. There will be transportation available from Beacon Star Air Field to Lewistown for those who desire it.

Campers are welcome. Be sure to bring your bathing suits. Frank Bass has a lovely heated indoor swimming pool you'll all want to take advantage of! See you there!

Refueling Mistakes

Aircraft operators should keep an eye on the fueling of their aircraft because there are instances, particularly with light aircraft, where the aircraft is fueled with the wrong type of fuel (i.e., kerosene instead of gasoline). This action can have serious, if not disastrous results. A turbine engine will not run on kerosene. It will malfunction and most probably stop as soon as the gasoline in the system is used up and kerosene is fed into the engine.

On occasion there have been incidents where the filling points for fuel and other fluids (i.e., water methol) have been confused. The pilot-in-command should satisfy himself that the correct fuel and other fluids are being supplied and delivered to the proper filling points.

As an aircraft owner you should ensure that filling points are clearly marked and that markings remain legible and sufficiently conspicuous to read at night. Although this is important on all aircraft it is particularly so when the aircraft type includes the word "turbo" which can mean either turbine engine or that the piston engine is fitted with an exhaust turbine supercharger. This could result in confusion as to type of fuel to be used.

(Minnesota Flyer)

CONGRATULATIONS

FAA Certificates Issued Recently to Pilots

Due to a new ruling, we are pleased once again to publish the names of those Montana pilots who have recently received FAA Certificates. Next month we will also be publishing the city in which the individual lives.

PRIVATE

Michael L. Witmer
Carven A. Scott
Raymond O. Tweeten
Richard L. Grosskopf
Stephen A. Solberg
Richard R. Brodock
William R. Thibodeau
Frederick G. Carl III
Clifford C. Main
Roger W. Benefiel
Raymond L. Miller
John S. Cassidy
Gregory A. Jackson
John B. Schmitt
Philip W. Hangas
Dave L. Miller
Dan P. Ritter
Joe H. Ramaker
Virgil T. Torgerson
Janet A. Hulme
Diane Linn
James O. Kelley
Katherine A. Althen
Michael T. Tappan
Daniel A. Michael
Alvin A. Olsen
Randall J. Buck
Gordon J. Hurley

INSTRUMENT

Robert F. Tess (Private)
Terry W. Lindsay (Private)
Charles R. Clough (Commercial)
John J. Sarti (Commercial)

MULTI-ENGINE

James R. Lloyd (Commercial)
James S. Norem (Commercial)

COMMERCIAL

Larry R. Peigneux

ATP

Michael G. Rafferty
Carl J. Hartwig

FLIGHT INSTRUCTOR

Leroy S. Keller (Instrument)
Michael V. Seaman
Michael J. Morrison
Arnold A. Lindberg (Renewal)
William P. Kent (Renewal)
H. Grant Pribanic

Schafer Meadows



Herb Sammons, Aeronautics Board Secretary and Chairman of the Schafer Meadows Fly-In.



Ray Tocci (foreground) packing in a gopher hole.



Dick Stroh polished off a gopher hole (foreground) watch.



Roger Sammons manned the wheelbarrow for the work crew.



Saturday evening entertainment was provided by Herb Sammons (right) and Norm Eberhardt.



Even the ladies got involved in cleaning up the strip.

os Annual Fly-In



e his wife Leona and Terry Miles (right



Terry and Bonnie Miles worked side by side in helping fill gopher holes and pick rock.



There were a total of 22 planes who flew in for the weekend.



Gordon Sands appeared at Schafer Meadows to the delight of all of us.



Get those rocks! Left to right, Walt Hargas, Sam Langhus, and Chet Sammons diligently working.

Runway Friction Measurement

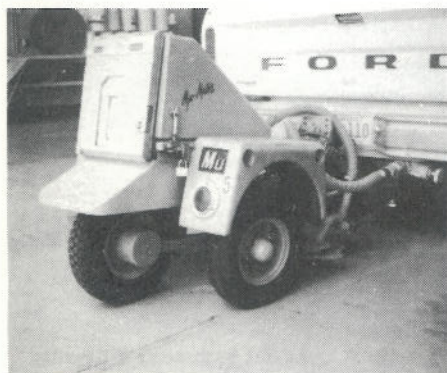
By: Ted Mathis, Airport Manager
Yellowstone Airport

The FAA has contracted a Minnesota based engineering firm to test and evaluate runway pavement surface conditions at over 270 air carrier airports serving turbo jet aircraft throughout the United States. This month the testing units came to Montana.

Through the friction measurement program, the FAA hopes to update its advisory circular on Runway Friction and related safety items, identify pavement construction methods most effective in providing good friction characteristics and come up with new ways to reduce hydroplaning and improve runway friction.

To test the runway friction, the contractor uses an instrument called a Mu-Meter. The Mu-Meter is a small three wheeled trailer unit that is pulled behind a pickup at 40 mph. The trailer unit is made up of a triangular frame upon which are mounted two friction measuring wheels and a rear wheel which drives the recorder mechanism. The recorder uses a chart paper which shows a friction reading on a scale of one to one hundred. A reading of over fifty on the graph is termed acceptable by the FAA. The Mu-Meter is also equipped with an automatic water dispensing system which places a film of water in front of the tires to simulate a wet runway condition.

Thus far, all of the airports tested in Montana have had good results. The runway at Yellowstone had readings in the sixties and Bozeman's new runway surface tested at over eighty.



Mu-Meter used in testing runway friction.

In Memory

By: Frank Wiley

We were saddened to learn of the death of our valued friend — Carl Schirmer.

Carl was one of the few remaining pilots of the "stick and rudder" era. He typified those self-reliant Montanans who have grown up with horses and transitioned to flying by the same "seat of the pants" awareness and instinct that was stimulated by their desire for survival.

Carl spent much of his early years on his Grandfathers ranch, north of Kalispell. He became a packer in Glacier Park before the invention of the wheel in that area. He thought there must be some easier way to travel through the mountains that he knew so well, and started flying in Spokane in 1926.

In 1928 he purchased a Hiss Eagle Rock and set out to make his fortune barnstorming in the northwest.

Carl belonged to the Washington National Guard and was the Engineering Officer for the Spokane squadron until the Guard went on active duty in World War II. He was prevented from continuing as a member of that unit because of the loss of an eye in an airplane crash.

Carl then flew as a mapping pilot for Wallace Aerial Surveys. He operated two certificated flying schools for that company during World War II. He returned to Montana where he was employed by the Montana Aeronautics Commission as a pilot and heading up the Air Marking Program.

Carl took over the management of the Sky Supply Store on the Helena Airport for the Johnson Flying Service. He operated this establishment for many years and was well known to pilots and flight operators who purchased parts and supplies from him.

Carl retired from the Johnson Flying Service and moved to Coeur d'Alene, Idaho.

In his golden years Carl and his good wife Faye commuted between Coeur d'Alene and his gold claim on the Vermillion River in Montana above Trout Creek. They had a happy life in both of these beautiful settings; enjoyed their friends until Carl passed away the last week in July.

Both Carl and Faye are known and remembered with pleasure by many pilots and those in the flying frater-

nity, not only in Montana but in the other western states, Canada, and Alaska.

We surely will miss him.

Horse-Cart Accident Injures Plymouth Man

Plymouth — A 65-year-old man was injured Sunday when the horse-drawn wagon he was driving overturned near his home.

Admitted to Plymouth Hospital about 4:30 p.m. Sunday, George Adams of Plymouth was reported in fair condition Monday.

Mrs. Adams said the accident occurred when the hitch between the two horses pulling the wagon broke and ran into the ground, overturning the wagon and throwing Adams to the ground.

Mrs. Adams said her husband received about twenty stitches for a head wound and may have injured his back in the fall.

We rather surmise that an accident report prepared by an aircraft accident investigator relevant to the above-cited incident would look something like this:

"This accident was reported by local police officials at 6:30 p.m. Investigation at the scene revealed the following facts. A structural failure was evident in the torque tube lying parallel to the power units. This produced a loss of directional control which may have been aggravated by asymmetrical thrust conditions which could have been produced by the initial material failure. The aircraft left the runway and overturned in a ditch. There was no evidence of braking action. Airport conditions will be cited as a causal factor because of the presence of the ditch within the primary surface.

There was no fire and no evidence of a fuel spill. The pilot was not properly certificated for the aircraft type, make, and model even though he had many years of experience in this type homebuilt craft. No evidence of recent experience was found nor was there any evidence the pilot had passed a biennial flight review within the past 24 calendar months. Weather was not a factor in the accident.

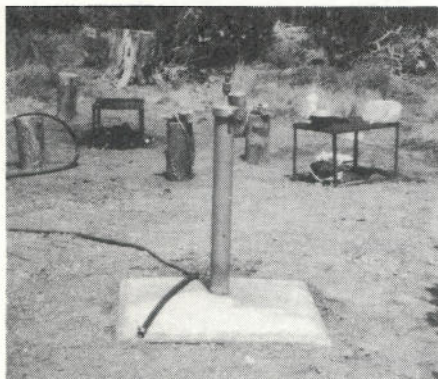
In as much as the injuries and the damage were minor, the accident has been downgraded to an incident."

(Illinois DOT)

Campground Opens at Yellowstone Airport

Pilots flying to Yellowstone Airport may now camp out beside their aircraft at the new airport campground. The campground is located in the trees just north of the tiedown area. Campground facilities include fire pits, a picnic table, outhouse and running water.

There is no charge for use of this area.



Water and fire pit grills are available at the campground at Yellowstone Airport.



The campground at Yellowstone Airport.

Calendar

August 25 — Density Altitude Clinic, 11 a.m., Choteau. Contact Jack Van De Reit (406) 466-5749. See article.

September 15 & 16 — MPA Fall Fly-in. Beacon Star Antique Airfield. See article.

September 22 — Deadline date for entering the 3rd annual Helloween Air Race.

September 25-27 — National Business Aircraft Association Annual Convention, Atlanta, GA.

September 28-30 — North Dakota Flying Farmers Convention, Holiday Inn, Fargo.

October 4-7 — NPA Mid-Continent Fly-in, Wichita, KS. Call (202) 737-0773 for further details.

October 4-6 — 24th Annual Reunion of OX5 Aviation Pioneers, Seattle, WA.

October 5-7 — Montana Flying Farmers Convention, Wolf Point.

October 6 — 3rd Annual Helloween Air Race, Great Falls to Jackpot. Contact Patti Thompson, Great Falls. (406) 452-8800.

said recently.

For the first three months of 1979, air travel increased at about a 20 per cent clip over the first quarter performance of 1978, and could exceed 300 million passengers this year according to Mr. Ignatius. Airlines now account for about 85 per cent of public travel between U.S. cities and for nearly 95 per cent of such travel between the U.S. and points overseas.

Speaking to the Aviation/Space Writers Annual News Conference in Houston, Mr. Ignatius said the airline industry fuel bill in 1979 will be \$750 million to \$1 billion or more over last year. He noted that each penny rise in the price of a gallon of jet fuel increases the airlines' annual fuel bill by about \$110 million.

He reviewed issues on an agenda for air transportation which he said must be addressed in looking at the current and future growth of air transportation including:

- Adequate fuel supplies to meet growing public transportation needs.

- A constructive approach to noise abatement that will serve the public interest.

- Capital requirements to make possible massive aircraft orders for replacement and growth.

- Reduction in the excessive taxes paid by passengers and shippers to the Airport/Airways Trust Fund, now with a \$3 billion surplus.

- Optimum use of the airways to meet the needs of public and private transportation.

- Adequate airport facilities and better ground access for airports.

- Improved baggage facilities.

- Improved facilitation of international air travel and shipping.

Mr. Ignatius said fuel presents a twofold problem for the airlines — adequacy of supply and affordable prices. Because of supply limitations and rising costs, the airlines began a comprehensive fuel conservation effort more than five years ago.

"Conservation measures have been successful," he said. "The airlines are now getting about 40 per cent more work out of a gallon of fuel than in 1973, in terms of both passengers transported and passenger miles produced per unit of fuel consumed. The airlines used about 50 million fewer gallons of fuel in 1978 than in 1973, while carrying 78 million more passengers and more cargo."

Up, Up and Away

During the period of July 9 to September 30, 1979, Ames Laboratory in cooperation with the Iowa State University will be flying a tethered balloon near Colstrip to collect meteorological and air quality data.

A maximum of eight field experiments will be conducted. Each experiment will run on a 24 hour basis and will not last longer than a two week duration.

Ames was able to obtain a waiver from the FAA after they investigated the project and the hazards involved. Normally a moored balloon is not allowed more than 500 feet above the surface of the earth; the altitude necessary to do the scientific investigation will not exceed 1999' above ground level.

The balloon as well as the tether line will be well marked and illuminated to avoid any possible conflict with aircraft. Ames also agreed that the investigation would cease during adverse weather conditions. Both Salt Lake Center and the Miles City Flight Service Station will be advised by Ames prior to each field experiment.

'79 Airline Fuel Bill

Airline travel continues to surge in 1979 and so do airline costs, spurred by rising fuel prices which could result in an increase of \$1 billion or more in the industry's energy bill this year, Paul R. Ignatius, president of the Air Transport Association,

Biplane Bathes in Bardwell's Bath

This article was sent to Dorothy Langhus, Flying Farmers Secretary, by Wayne and Evelyn Krueger:

The Wright Brothers created the first practical flying machine, then Lindburgh became a national hero by flying non-stop across the Atlantic, and now Tom Bardwell of Columbus has opened Montana first self-service plane wash.

"I've had airplanes stick their noses in the car wash," Bardwell explained as he stood watching his first pilot customer use the new facility next to Columbus' air field "but this is the first one outside. This is the only self-service airplane wash in

the state."

The plane wash consists of a concrete platform on the east side of Bardwell's present car wash. There are usually plane washes at major airfields, but their services can cost up to \$50 for the grooming of just a small plane.

Tom Pfeffer, the first to use the Columbus self-service wash, decided he could save money by flying up from Billings. Pfeffer is an aerial crop sprayer from Minnesota.

"The people in Billings told me about this place, so I decided I'd come up and clean up a little," Pfeffer said as he used the spray nozzle to wash down his Grumman Ag Cat biplane.

"This is my first year out here in Montana. I'll be spraying wheat up near Great Falls and in another month I'll be back in Minnesota when

the season starts back there."

Asked if he'd been to any other self-service plane washes, Pfeffer responded, "Nope, I don't know of any back in Minnesota."

A passing car pulled in to the car wash to take a gander at the biplane, looking somewhat like a member out of the Richthoffen rank. "I'm from Portland," the driver said, "and that plane looks like it has the same air foil as a model I'm building."

"Any self-service airplane washes out in Oregon?" he asked. "Not that I know of," was the reply.

So for all one can tell, Tom Bardwell may have one of the only self-service plane washes in this part of the country. That won't make history with the Wright Brothers or Lindburgh, but it's still part of that same Yankee ingenuity.

MEMBER

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PURPOSE—"To foster aviation, as an industry, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform laws and regulations; and to otherwise encourage co-operation and mutual aid among the several states."



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